

Application No.: 10/542,714
Art Unit: 3682

Amendment Under 37 C.F.R. §1.111
Attorney Docket No.: 052826

AMENDMENTS TO THE DRAWINGS

The attached replacement sheets of drawings include changes to Figs.8 and 9.

REMARKS

Claims 1-3 and 6 are currently pending. Claims 1-3 are amended. Claims 4 and 5 are canceled.

Claim Objections and Rejections Under 35 U.S.C. §112

The claims were objected to because of various typographical and grammatical errors, and rejected under 35 U.S.C. § 112, second paragraph for various ambiguities. The claims were amended above, rendering moot some of these rejections and objections.

Claim Rejections - 35 U.S.C. §102

Claims 1-6 are rejected under 35 U.S.C. §102(b) as being anticipated by **Tsai**, (USP 5,245,263). However, **Tsai** does not teach or suggest all the features recited in the present claimed invention. For instance, **Tsai** does not disclose:

For claims 1 and 2:

“wherein the small gear is arranged within an angular range from the rotational center of the large gear, said angular range being ± 35 degrees from an imaginary reference plane, and

wherein said imaginary reference plane is defined as a plane parallel to a lower arm rotational plane, orthogonal to the front/rear shaft, and including a rotational axis of the large gear.”

For claim 3:

“wherein the small gear is arranged within an angular range from the rotational center of the large gear, said angular range being ± 35 degrees from the imaginary reference plane, and

wherein said imaginary reference plane is defined as a plane parallel to a rotating barrel portion rotational plane, orthogonal to the rotating shaft, and including a rotational axis of the large gear.”

The claimed angular range is described, for example, by the angle β shown in Fig. 7(b), and in the specification (bottom of page 9 to top of page 10; bottom of page 13 to top of page 14; and middle of page 16). For claims 1 and 2, the imaginary reference plane is shown, for example, in a marked up version of Fig. 3 (attached Exhibit 1). For claim 3, the imaginary reference plane is shown, for example, in a marked up version of Fig. 1 (attached Exhibit 2).

The gears of **Tsai** identified in the Office Action do not meet these claimed features. For instance, with regard to claim 1, the Office Action referred to a large gear (to the right of 5), a small gear (at 2), and a lower arm (2nd link) of **Tsai**. However, the small gear (at 2) is not within ± 35 degrees from an imaginary reference plane as defined in claim 1. The claimed imaginary reference plane cannot be accommodated within the designated corresponding structures of **Tsai**. An imaginary reference plane being parallel to the rotational plane of the lower arm (2nd link) and orthogonal to the front/rear shaft does not include the rotational axis of the large gear (to the right of 5). In fact, such an imaginary reference plane meeting the first two conditions mentioned above would be orthogonal to the rotational axis of the large gear (to the right of 5). The small gear (at 2) does not exist within the claimed range within ± 35 degrees from an imaginary reference plane as defined in claim 1.

With regard to claim 2, the Office Action referred a rotating barrel portion (1st arm link), a small gear (to the right of 8), and a large gear (above 1) fixed in the rotating barrel portion

(extending inside the 1st arm link) of **Tsai**. Although the Office Action referred to “a lower arm one end of which is axially supported by the rotating barrel portion,” the Office Action did not identify any specific corresponding structure of **Tsai**. It is assumed that because the Office Action considered the robot base to be Base Link (O) of **Tsai**, and the rotating barrel portion to be the 1st arm link, then the alleged lower arm might be the remaining 2nd arm link. That being the case, **Tsai** does not disclose or fairly suggest all the features of claim 2, for at least the same reasons set forth above regarding claim 1, *i.e.*, the claimed imaginary reference plane cannot be accommodated from the alleged corresponding structures of **Tsai** and the small gear (to the right of 8) does not exist within the claimed range within ± 35 degrees from an imaginary reference plane as defined in claim 2.

With regard to claim 3, the Office Action referred to a rotating barrel portion (link 1), a large gear (left of label “4th input”), a small gear (gear 5), and a lower arm (link 2), with reference to Fig. 5 of **Tsai**. Again, the claimed imaginary reference plane cannot be accommodated within the designated corresponding structures of **Tsai**. An imaginary reference plane being parallel to the rotational plane of the rotating barrel portion (link 1) and orthogonal to the rotating shaft of the rotating barrel portion does not include the rotational axis of the large gear (left of label “4th input”). In fact, such an imaginary reference plane meeting the first two conditions mentioned above would be orthogonal to the rotational axis of the large gear (left of label “4th input”). The small gear (gear 5) does not exist within the claimed range within ± 35 degrees from an imaginary reference plane as defined in claim 3.

For at least these reasons, the present claimed invention patentably distinguishes over the prior art. In view of the aforementioned amendments and accompanying remarks, Applicants submit that the claims, as herein amended, are in condition for allowance. Applicants request such action at an early date.

If the Examiner believes that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney to arrange for an interview to expedite the disposition of this case.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

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Attachments: Replacement Sheets of Figures 8 and 9
Exhibit 1 (marked up version of Fig. 3)
Exhibit 2 (marked up version of Fig. 1)